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09/631,101	08/01/2000	Harold David Gunn	80342	5898
20350 7590 01/05/2007 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER BLACKWELL, JAMES H	
			ART UNIT	PAPER NUMBER
			2176	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 09/631,101	Applicant(s) GUNN ET AL.	
	Examiner James H. Blackwell	Art Unit 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 and 18 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56, 83-85, 96-106, 130-133, 136-139 and 142-189 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-56, 83-85, 96-106, 130-133, 136-139 and 142-189 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/22/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to an amendment filed 11/17/2006.
2. The original priority date is **03/18/1999**.
3. Claims 1-56, 83-85, 96-106, 130-133, 136-139, and 142-189 are pending.
4. Claims 1, 47, 83-85, 96, 155, and 189 are independent claims.

Claim Objections

5. Claims 1-13, 20-21, and 47-48 are objected to because of the following informalities: each of these claims specifies one, or a combination of first through fifth types of user selections with a pointing device. It is unclear as to whether the first through fifth nomenclature is being used to distinguish different types of user selections with the pointing device, as worded in the claims, or to different sequences of user selections with the pointing device. If one looks at the claim dependencies, the first through fifth wording seems to suggest types. However, if one considers the wording indicating sequences of user interactions, then the "third" type of user selection is skipped when one combines claim 1 (selections 1 or 2) with claim 20 (selection 4) or with claim 21 (selection 5). If the first through fifth nomenclature is indicative of a sequence of steps, then it would appear that a problem exists with claims 20 and 21 especially if it is to be a predefined sequence allowing for no skipping of steps.

Additionally, the use of the fourth and fifth types of selection (claims 20 and 21 respectively), do not seem to be supported in the Specification as named selection types (as are first through third in Pgs. 5-6 of the Specification).

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6. Claim 7 is objected to because of the following informalities: the wording of this claim makes it unclear as to what it is describing. Paraphrasing, it seems to describe a user selection with a pointing device being a gesture (understood as some motion of the pointing device) in a direction of a completion candidate without moving to it or selecting the completion candidate. As such, the claim appears to describe moving without moving, and selecting without selecting. This is confusing and makes it difficult to properly interpret the claim.

The claim language describing the second type of user selection also appears to be inconsistent with the prior definition of the second type of user selection as defined in the Specification (Pgs. 5-6) and in Claim 1; that is, *replacing the partial text entry with a completion candidate from the search list*.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-5, 7-9, 12, 14-24, 30-33, 35-36, 38-56, 83-85, 105-106, 131, and 133 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masui ("An Efficient Text Input Method for Pen-Based Computers," Proc. of the SIGCHI Conf. on Human Factors in Comp. Sys. (Los Angeles, Cal., US, 04/18-23/98, pp. 328-335).

In regard to independent Claim 1 (and similarly dependent Claim 47), Masui discloses:

- *a method of processing text entered into a personal computing device with a pointing device* (Title; Abstract → Efficient text input method for pen-based computers);
 - *(a) receiving a partial text entry comprising at least a first character* (Figs. 1-12, Pgs. 329-330 → user enters single character "f" corresponding to first letter in example sentence);
 - *(b) in response to receipt of the first character of the partial text entry, obtaining a dynamically generated list of completion candidates based on the partial text entry* (Fig. 2 → displays frequently used candidate words (9

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- of them) in a dynamic menu (interpreted as the claimed *list* since menus typically contain lists of selections);
- (c) *displaying the list of completion candidates in a search list within a graphical user interface* (Figs. 2-12 → window (GUI) containing completion candidate list);
 - (d) *receiving a user input signal associated with the pointing device* (Figs. 2, 4-5, 7-8 → once “f” has been entered, graphic shows an arrow indicating a pointing device used to select completion candidate);
 - (f) if the user input signal corresponds to a second type of user selection with the pointing device, replacing the partial text entry with a completion candidate from the search list (Fig. 3; Pg. 330 → since the word “first” is in the menu, the user can drag the pen and highlight the word “first”, and then take the pen off the tablet to complete the selection. Alternatively, if the user does not make a selection from the pull-down menu of Fig. 3, he can choose the desired word from the popup menu as shown in Fig. 4 (apparently the difference between Figs. 3 and 4 is that Fig. 4 displays one more candidate word suggesting again that the words are in a “scrollable” menu).

Masui fails to expressly disclose:

- (e) *if the user input signal corresponds to a first type of user selection with the pointing device, deactivating the search list;*

However, the Examiner takes Official Notice that, at the time the present invention was made, *deactivating a search list* was well-known to one of ordinary skill in the art for the purpose of un-cluttering the workspace. This was true for devices where the screen was small (such as with a PDA) where screen space was at a premium. This was especially useful for when the list was no longer needed (selection made, user manually made correction).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *deactivating a search list* for the purpose of freeing screen space once a choice had been made or the user manually input a choice of their own.

In regard to independent Claim 83, Masui discloses:

- *a computer-readable medium for providing instructions for directing a processing unit to process text entered via a user interface with a pointing device* (Title; Abstract → Efficient text input method for pen-based computers);
 - *(a) receiving a partial text entry* (Figs. 1-12, Pgs. 329-330 → user enters single character "f" corresponding to first letter in example sentence);
 - *(b) obtaining a dynamically generated list of completion candidates from a dictionary based on the partial text entry* (Fig. 2 → displays frequently used candidate words (9 of them) in a dynamic menu (interpreted as the claimed *list* since menus typically contain lists of selections);

- *(c) displaying the list of completion candidates in a search list within a graphical user interface (Figs. 2-12 → window (GUI) containing completion candidate list);*
- *(d) receiving a user input signal associated with the pointing device (Figs. 2, 4-5, 7-8 → once “f” has been entered, graphic shows an arrow indicating a pointing device used to select completion candidate);*
- *(f) if the user input signal corresponds to a second type of user selection with the pointing device, replacing the partial text entry with a completion candidate from the search list (Fig. 3; Pg. 330 → since the word “first” is in the menu, the user can drag the pen and highlight the word “first”, and then take the pen off the tablet to complete the selection. Alternatively, if the user does not make a selection from the pull-down menu of Fig. 3, he can choose the desired word from the popup menu as shown in Fig. 4 (apparently the difference between Figs. 3 and 4 is that Fig. 4 displays one more candidate word suggesting again that the words are in a “scrollable” menu).*
- *(g) if the user input signal corresponds to a third type of user selection with the pointing device,*
- *dynamically obtaining a refined list of completion candidates based on one of the completion candidates from the search list Pg. 330 → after selecting “first” in Fig. 4, the display changes to Fig. 5. In the menu at the bottom, the words that often come after “first” are listed in order of frequency.*

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Thus, the list is "refined" based on the entry list candidate "first"'s selection);

- *displaying the refined list of completion candidates in the search list for further user selection* (Pg. 329; → transition from Figs. 3 to 4 shows refined list);
- *monitoring for a further user input signal associated with the pointing device* (Pg. 329; → system waits and then proceeds from Fig. 5 to Fig. 6 by entering "we").

Masui fails to expressly disclose:

- *(e) if the user input signal corresponds to a first type of user selection with the pointing device, deactivating the search list;*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *deactivating a search list* was well-known to one of ordinary skill in the art for the purpose of un-cluttering the workspace. This was true for devices where the screen was small (such as with a PDA) where screen space was at a premium. This was especially useful for when the list was no longer needed (selection made, user manually made correction).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *deactivating a search list* for the purpose of freeing screen space once a choice had been made or the user manually input a choice of their own.

In regard to independent Claim 84, Masui discloses:

- *a system for computer-assisted text generation and entry* (Title; Abstract → Efficient text input method for pen-based computers);
 - *(a) an input interface for receiving user input signals based on actions with a pointing device* (e.g., Figs. 1-12, Pgs. 329-330 → discloses a “virtual” keyboard interface to input letters with a pen or mouse or other input pointing device);
 - *(b) a processing unit* (Title; Abstract → pen-based and other computers inherently contain a processing unit);
 - *(c) a computer-readable medium containing computer-readable instructions for directing the processing unit to assist with text generation and entry based on user input received via the input interface with the pointing device* (pen-based and other computers inherently contain memory, disks, or other storage media for storing programs such as that disclosed by Masui);
 - *(i) receiving a partial text entry* (Figs. 1-12, Pgs. 329-330 → user enters “f” key corresponding to first letter in example sentence);
 - *(ii) obtaining a dynamically generated list of completion candidates based on the partial text entry* (Fig. 2 → displays frequently used candidate words (9 of them) in a dynamic menu (interpreted as the claimed *list* since menus typically contain lists of selections);

- *(iii) displaying the list of completion candidates in a search list in a display device (Figs. 2-12 → window (GUI) containing completion candidate list);*
- *(iv) receiving a user input signal associated with the pointing device from the input interface (Figs. 2, 4-5, 7-8 → once “f” has been entered, graphic shows an arrow indicating a pointing device used to select completion candidate);*
- *(vi) if the user input signal corresponds to a second type of user selection with the pointing device, replacing the partial text entry with a completion candidate from the search list (Fig. 3; Pg. 330 → since the word “first” is in the menu, the user can drag the pen and highlight the word “first”, and then take the pen off the tablet to complete the selection. Alternatively, if the user does not make a selection from the pull-down menu of Fig. 3, he can choose the desired word from the popup menu as shown in Fig. 4 (apparently the difference between Figs. 3 and 4 is that Fig. 4 displays one more candidate word suggesting again that the words are in a “scrollable” menu).*

Masui fails to expressly disclose:

- *(v) if the user input signal corresponds to a first type of user selection with the pointing device, deactivating the search list;*

However, the Examiner takes Official Notice that, at the time the present invention was made, *deactivating a search list* was well-known to one of ordinary skill in the art for the purpose of un-cluttering the workspace. This was true for devices where the screen was small (such as with a PDA) where screen space was at a premium. This was especially useful for when the list was no longer needed (selection made, user manually made correction).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *deactivating a search list* for the purpose of freeing screen space once a choice had been made or the user manually input a choice of their own.

In regard to dependent Claim 2 (and similarly dependent Claim 48), Masui discloses:

- *if the user input signal corresponds to a third type of user selection with the pointing device,*
 - *dynamically obtaining a refined list of completion candidates based on one of the completion candidates from the search list (Pg. 330 → after selecting “first” in Fig. 4, the display changes to Fig. 5. In the menu at the bottom, the words that often come after “first” are listed in order of frequency. Thus, the list is “refined” based on the entry list candidate “first”’s selection);*

- *displaying the refined list of completion candidates in the search list for further user selection* (Pg. 329; → transition from Figs. 3 to 4 shows refined list);
- *monitoring for a further user input signal associated with the pointing device* (Pg. 329; → system waits and then proceeds from Fig. 5 to Fig. 6 by entering “we”).

In regard to dependent Claim 3, Masui discloses:

- *the user input signal corresponds to the first type of user selection with the pointing device when the pointing device is lifted up from an input-sensitive surface of the personal computing device without any significant movement once the search list is displayed* (Pgs. 329, Figs. 1-2, single character “f” depressed and released producing candidate list).

In regard to dependent Claim 4, Masui discloses:

- *the user input signal corresponds to the first type of user selection with the pointing device when a button on a mouse is selected* (Pg. 332; → POBox executes on a number of operating systems, some primarily desktop using mouse pointing devices and those that prefer pen (e.g., Palm PDA); the implication is that either a mouse, with buttons or a stylus or pen can be used with the system for the *first type of user selection*, which is deactivating a search list).

In regard to dependent Claim 5, Masui discloses:

- *the user input signal corresponds to the second type of user selection with the pointing device when*
 - *a gesture is made with the pointing device towards a completion candidate in the search list to select the completion candidate (Pg. 330 → user can drag the pen (gesture) and highlight the word “First” as shown in Fig. 3);*
 - *another user input signal is received indicating acceptance by the user of the completion candidate (Pg. 330 → user can drag the pen (gesture) and highlight the word “First” as shown in Fig. 3, and then take the pen off the tablet (another user input signal) to complete the selection).*

In regard to dependent Claim 7, Masui discloses:

- *the user input signal corresponds to the second type of user selection with the pointing device when a gesture is made with the pointing device in a direction associated with a desired completion candidate without the pointing device necessarily moving towards or onto a portion of the graphical user interface where the completion candidate is displayed (Pg. 330; → the user can drag the pen and highlight the word “first”, suggesting a motion can be made in the direction of a completion candidate. Dragging suggests the pointing device is “active”. It is further noted that the Examiner has interpreted this claim broadly*

since it is unclear as to exactly what is taking place and whether or not what is claimed is even possible);

In regard to dependent Claim 8, Masui discloses:

- *the user input signal corresponds to the second type of user selection with the pointing device when*
 - *a motion is made with the pointing device in a particular direction associated with a desired completion candidate for at least a predetermined distance while the pointing device is in an active state (Pg. 330; → the user can drag the pen and highlight the word “first”, suggesting a motion can be made in the direction of a completion candidate. Dragging suggests the pointing device is “active”);*
 - *a further action is made with the pointing device to accept the desired completion candidate (Pg. 330 → after highlighting, user takes pen off the tablet to complete the selection of “first”).*

In regard to dependent Claim 9, Masui discloses:

- *the user input signal corresponds to the second type of user selection with the pointing device when a completion candidate in the search list is selected to replace the partial text entry (Pg. 329, Figs.2-4 → Fig. 3 user selects completion candidate to replace the “f” key previously entered).*

In regard to dependent Claim 12, Masui discloses:

- *the user input signal corresponds to the third type of user selection with the pointing device when a predetermined character or key is selected (Pg. 330; Fig. 4 → after selecting the word “First”, the display changes to Fig. 5 which offers a new completion candidate list for words most often occurring after the word “First”. The implication is that by selecting a candidate word, the system prepares for the next entry, hence selection of candidate is an end-of-entry signal to the system).*

In regard to dependent Claim 14, Masui discloses:

- *preparing to receive a new partial text entry once the partial text entry is replaced with a completion candidate from the search list (Pg. 330; Fig. 4 → after selecting the word “First”, the display changes to Fig. 5 which offers a new completion candidate list for words most often occurring after the word “First”. The implication is that by selecting a candidate word, the system prepares for the next entry, hence selection of candidate is an end-of-entry signal to the system).*

In regard to dependent Claim 15 (and similarly dependent Claim 49), Masui discloses:

- *receiving an end-of-entry signal; and preparing to receive a new partial text entry once the end-of-entry signal is received (Pg. 330; Fig. 4 → after selecting the word “First”, the display changes to Fig. 5 which offers a new completion*

candidate list for words most often occurring after the word "First". The implication is that by selecting a candidate word, the system prepares for the next entry, hence selection of candidate is an end-of-entry signal to the system).

In regard to dependent Claim 16, Masui discloses:

- *receiving an end-of-entry signal once a predetermined character or key is selected, and preparing to receive a new partial text entry once the end-of-entry signal is received* (Pg. 330; Fig. 4 → after selecting the word "First", the display changes to Fig. 5 which offers a new completion candidate list for words most often occurring after the word "First". The implication is that by selecting a candidate word, the system prepares for the next entry, hence selection of candidate is an end-of-entry signal to the system).

In regard to dependent Claim 17 (and similarly dependent Claim 50), Masui discloses:

- *preparing to receive a new partial text entry after the partial text entry is replaced with a completion candidate from the search list, but only if another user input signal is received that corresponds to an express user selection to terminate searching based on the partial text entry* (Transition from Fig. 3 or Fig. 4 → partial entry of letter "f" instigates completion candidate list generation; Fig. 3 selection by dragging, Fig. 4 selection by clicking. Both indicate to interface termination of search mode preparing for new text entries).

In regard to dependent Claim 18 (and similarly dependent Claim 51), Masui
discloses:

- *displaying in the graphical user interface an indication of a currently active entry mode selected from at least one of a keyboard mode and a search mode (Fig. 2 → "f" key entered and completion candidates appear indicative of a keyboard entry mode).*

In regard to dependent Claim 19 (and similarly dependent Claim 52), Masui
discloses:

- *displaying in the graphical user interface a total number of completion candidates in a dictionary that begin with the partial text entry (Pg. 329-330, Figs. 2-12 → each of these figures shows a list of completion candidates available suggesting that this is the total number available based on the partial input (it is noted that the example starting on Pg. 329 is based on a limited set of input text).*

In regard to dependent Claim 20, Masui fails to expressly disclose:

- *if the user input signal corresponds to a fourth type of user selection with the pointing device, changing selections within the search list.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *changing selections within the search list* was well-known to one of

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ordinary skill in the art for the purpose of allowing the user to change their mind if another word in the list was more suitable, or if they simply made a mistake.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *changing selections within the search list* for the purpose of allowing the user to change their mind if another word in the list was more suitable, or if they simply made a mistake.

In regard to dependent Claim 21 (and similarly dependent Claim 53), Masui discloses:

- *if the user input signal corresponds to a fifth type of user selection with the pointing device, pausing without any further processing of the partial text entry or the search list until a new input signal identifying another type of user selection is received (Pgs. 329-330, Figs. 2-12 → in going from Figs. 2-3, 3-4, etc., nothing occurs until a new candidate entry is selected from the list).*

In regard to dependent Claim 22, Masui discloses:

- *at least part of the partial text entry is received via a digital keyboard, the method further comprising:*
 - *(a) displaying the digital keyboard in a user interface of the personal computing device when a user is entering text a keystroke at a time (Figs. 1-12 → disclose virtual keyboard for entering characters);*

- (b) *monitoring for user input (e.g., Figs. 1-2; → clear that clicking the “f” key and producing candidate list demonstrates the virtual keyboard waits for further input);*

Masui fails to expressly disclose:

- (c) *if the user input corresponds to activating the search list,*
 - *replacing the digital keyboard with the search list and waiting for further user input; and*
- (d) *if the user input corresponds to terminating use of the search list once activated,*
 - *replacing the search list with the digital keyboard and waiting for further user input.*

However, the Examiner takes Official Notice that, at the time the present invention was made, *alternatively switching between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered an more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between two windows that are related* for the purpose of *providing an uncluttered an more easily read screen*.

In regard to dependent Claim 23 (and similarly dependent Claim 55), Masui
discloses:

- *at least part of the partial text entry is received via a digital keyboard (Figs. 1-12 → disclose a soft keyboard and process of entering characters);*
- *displaying simultaneously both the digital keyboard and the search list (e.g., Figs. 2-3 → show both search list and soft keyboard displayed simultaneously).*

In regard to dependent Claim 24, Masui discloses:

- *displaying the list of completion candidates in the search list as soon as they are retrieved by the candidate prediction system (Pgs. 329-330, Figs. 1-2 → going from Fig. 1 to Fig. 2 candidate list appears once "f" key has been depressed).*

In regard to dependent Claim 30 (and similarly dependent Claim 56), Masui
discloses:

- *retrieving completion candidates from multiple dictionaries each having their own weight values for completion candidates (Pg. 331 → discloses using word and phrase dictionaries sorted by term (word) and phrase frequency, respectively; Pg. 329 → best candidate words are at top of menu; likelihood (weight) calculated from term frequency and context of words, and presumably phrases);*
- *generating a final list of completion candidates for display in the search list based on the weight values associated with the completion candidates retrieved from*

the multiple dictionaries (Pg. 329; Figs. 1-12 →discloses selection lists based on the strategy disclosed in response to the previous limitation above).

In regard to dependent Claim 31, Masui discloses:

- *retrieving completion candidates from multiple dictionaries each having their own weight function for completion candidates* (Pg. 331 → discloses using word and phrase dictionaries sorted by term (word) and phrase frequency, respectively; Pg. 329 → best candidate words are at top of menu; likelihood (weight) calculated from term frequency and context of words, and presumably phrases);
- *generating a final list of completion candidates for display in the search list;*
 - *based on weight values associated with the completion candidates retrieved from the multiple dictionaries* (Pg. 329; Figs. 1-12 →discloses selection lists based on the strategy disclosed in response to the previous limitation above); and
 - *based on which of the dictionaries each particular completion candidate is retrieved from* ((Pg. 331, under “Dictionaries and Word Prediction”; → favors candidates which are found in both the word and phrase dictionaries and places those at the top of the list, those which are not found in both are less favored and appear lower in the list).

In regard to dependent Claim 32, Masui discloses:

- *displaying the search list in a fixed location in a graphical user interface* (Figs. 4-6, and 10-12 depict a completion list appearing generally in the lower part of the GUI with the graphical keyboard).

In regard to dependent Claim 33, Masui discloses:

- *at least part of the partial text entry is received via a digital keyboard* (Fig. 2 → entering “f” key); *the method further comprising*
- *displaying the search list docked with the digital keyboard* (based on a broad interpretation of the term “docked” to mean “attached to the digital keyboard”, Figs. 2-12, Pgs. 329-330 depict this as the list of “docked” to they digital keyboard).

In regard to dependent Claim 35, Masui fails to expressly disclose:

- *sensing for the pointing device with a proximity sensing input surface,*
- *displaying the digital keyboard when the pointing device is detected within a predetermined distance of a proximity sensing input surface, and*
- *hiding the digital keyboard when*
 - *the pointing device not detected within the predetermined distance of the proximity sensing input surface.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *touch sensitive screens with proximity sensing for opening and closing windows* was well-known to one of ordinary skill in the art for the purpose of

enabling the user to remain at a particular location on the screen and still be able to open the virtual keyboard when needed.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *touch sensitive screens with proximity sensing for opening and closing windows*.

In regard to dependent Claim 36, Masui discloses:

- *displaying a cursor on a screen that tracks movement with the pointing device including displaying the cursor over the digital keyboard when the digital keyboard is active* (Figs. 2-3; → disclose an arrow icon, indicative of a cursor position on a screen as selecting various keys on the virtual keyboard as well as then selecting completion candidates. Clearly the arrow cursor followed the stylus from the “f” key to the “first” word).

In regard to dependent Claim 38, Masui discloses:

- *displaying the list of completion candidates in the search list near a last known set of position coordinates for the pointing device* (Figs. 2-3; → disclose an arrow icon, indicative of a cursor position on a screen, selecting the “f” key, and then displaying a list of completion candidates near the last known position of the arrow icon (cursor) which was depressing the “f” key).

In regard to dependent Claim 39, Masui discloses:

- *displaying at least one of the completion candidates from the list of completion candidates displayed in the search list near a last known set of position coordinates for the pointing device slightly offset from at least one of an x-axis or y-axis* (see Fig. 2; shows the “f” character selected and a list of completion candidates displayed, a corner of the candidate list “emanating” from the “f” key with the pointer on the “f” key. Here, the current pointer position lies near at least one of the completion candidates at a last known position of the pointer and slightly offset from the completion candidates.

In regard to dependent Claim 40, Masui discloses:

- *displaying a cursor on a screen that tracks movement with the pointing device* (Figs. 2-3; → disclose an arrow icon, indicative of a cursors position on a screen as selecting various keys on the virtual keyboard as well as then selecting completion candidates. Clearly the arrow cursor followed the stylus from the “f” key to the “first” word).

In regard to dependent Claim 41, Masui discloses:

- *the cursor is displayed so as to track the movement of the pointing device precisely* (Figs. 2-3; → disclose an arrow icon, indicative of a cursors position on a screen as selecting various keys on the virtual keyboard as well as then selecting completion candidates. Clearly the arrow cursor followed the stylus from the “f” key to the “first” word precisely).

In regard to dependent Claim 42, Masui fails to expressly disclose:

- *the cursor is displayed so as to move about the screen a distance that is relative to the movement of the pointing device.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, “*cursors moving about the screen a distance that is relative to the movement of the pointing device*” was well-known to one of ordinary skill in the art for the purpose of avoiding obscuring that which the cursor is pointing to with the pointing device as it tracks over the touch-sensitive screen.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *the cursor is displayed so as to move about the screen a distance that is relative to the movement of the pointing device*.

In regard to dependent Claim 43, Masui fails to expressly disclose:

- *the cursor is displayed on the screen in a position remote from the pointing device.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, “*cursors displayed on the screen in a position remote from the pointing device*” was well-known to one of ordinary skill in the art for the purpose of avoiding obscuring that which the cursor is pointing to with the pointing device as it tracks over the touch-sensitive screen.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *the cursor is displayed on the screen in a position remote from the pointing device*.

In regard to dependent Claim 44, Masui fails to expressly disclose:

- *displaying the digital keyboard near where a pointing device is located in electronic text.*

However, the virtual, predictive keyboard of Masui is designed as a tool to assist a user in entering text into another application on a mobile device (e.g., PDA editor). In that particular example, due to a limited amount of screen space available, Masui's tool would necessarily be in close proximity to where the pointing device would be located (near words to be created or edited). In electronic text.

In regard to dependent Claim 45, Masui fails to expressly disclose:

- *displaying the digital keyboard just below or above a line of text that is being created or edited.*

However, the virtual, predictive keyboard of Masui is designed as a tool to assist a user in entering text into another application on a mobile device (e.g., PDA editor). In that particular example, due to a limited amount of screen space available, Masui's tool would necessarily be in close proximity to the editor and/or words to be created or edited.

In regard to dependent Claim 46 (and similarly dependent Claims 185-188),

Masui discloses:

- *a computer-readable medium having stored instructions for use in the execution of the method of Claim 1 (Pg. 332, discloses POBox executing on numerous operating systems and devices, all of which typically had storage capabilities in the form of disks, memory, or removable media).*

In regard to dependent Claim 54, Masui discloses:

- *(a) means for displaying a digital keyboard on a display device when a user is entering text a keystroke at a time into a personal computing device with the pointing device (Figs. 1-12 → evidence of display of digital keyboard by system and capability to enter text a keystroke at a time (letters or words));*
- *(b) means for monitoring for user input (Figs. 2-12 → monitoring or awaiting input and what happens when it occurs is displayed in successive figures).*

Masui fails to expressly disclose:

- *(c) means for replacing the digital keyboard with the search list and waiting for further user input if the user input corresponds to activating the search list; and*
- *(d) means for replacing the search list with the digital keyboard and waiting for further user input if the user input corresponds to terminating use of the search list once activated;*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, “alternatively switching between two windows that are related” was

well-known to one of ordinary skill in the art for the purpose of providing an uncluttered an more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include (c) *means for replacing the digital keyboard with the search list and waiting for further user input if the user input corresponds to activating the search list*; and (d) *means for replacing the search list with the digital keyboard and waiting for further user input if the user input corresponds to terminating use of the search list once activated*;

In regard to dependent Claim 85, Masui discloses:

the computer-readable medium further comprises

computer-readable instructions to dynamically obtain a refined list of completion candidates based on one of the completion candidates from the search list (Pg. 330 → after selecting “first” in Fig. 4, the display changes to Fig. 5. In the menu at the bottom, the words that often come after “first” are listed in order of frequency. Thus, the list is “refined” based on the entry list candidate “first”’s selection);

to display a refined list of completion candidates in the search list for further user selection, provided the user input signal corresponds to a third type of user selection with the pointing device (Pg. 329; → transition from Figs. 3 to 4 shows refined list);

In regard to dependent Claim 105 (and similarly dependent Claim 106),

Masui fails to expressly disclose:

- *obtaining, for display in the search list, a second dynamically generated list of completion candidates based on the partial text entry, in response to modification of the partial text entry.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *obtaining, for display in the search list, a second dynamically generated list of completion candidates based on the partial text entry, in response to modification of the partial text entry* was well-known to one of ordinary skill in the art for the purpose of refining/expanding (narrowing, in the case where the modification entails adding characters, broadening if characters are deleted) the selection of completion candidates available to choose from. This feature was especially useful for devices with small screens as it typically prevented the screen from being cluttered with too many candidates, many of which were typically distant in spelling compared to the word(s) that were desired). In the case where a list was involved, it typically would have prevented the user from having to scroll or otherwise move or reposition the stylus excessively to see the longer list (typically when fewer characters were entered).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *obtaining, for display in the search list, a second dynamically generated list of completion candidates based on the partial text entry, in response to modification of the partial text entry.*

In regard to dependent Claim 131 (and similarly dependent Claim 133),

Masui discloses:

- *receiving at least part of the partial text entry via a digital keyboard displayed in the graphical user interface* (Figs. 1-12, Pgs. 329-330 → user enters single character “f” corresponding to first letter in example sentence);

Masui fails to expressly disclose:

- *(b) displaying the search list while not displaying the digital keyboard within the graphical user interface in response to obtaining the refined list of completion candidates.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, “*alternatively switching between two windows that are related*” was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered and more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *(b) displaying the search list while not displaying the digital keyboard within the graphical user interface in response to obtaining the refined list of completion candidates.*

9. Claims 6, 10-11, 13, 96-104, 130, 132, 136-139, 142-189 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masui in view of Agulnick et al. (hereinafter Agulnick, U.S. Patent No. 5,347,295 filed 10/31/1990, issued 09/13/1994).

In regard to independent Claim 96 (and similarly independent Claims 155, and 189), Masui discloses:

- *a method of processing text entered into a personal computing device with a pointing device (Title; Abstract → Efficient text input method for pen-based computers);*
 - *(a) receiving a partial text entry comprising at least a first character Figs. 1-12, Pgs. 329-330 → user enters "f" key corresponding to first letter in example sentence);*
 - *(b) in response to receipt of the first character of the partial text entry, obtaining a first plurality of completion candidates based on the partial text entry (Fig. 2 → displays frequently used candidate words (9 of them) in a dynamic menu (interpreted as the claimed list since menus typically contain lists of selections);*
 - *(c) displaying the first plurality of completion candidates in a search list within a graphical user interface (Figs. 2-12 → window (GUI) containing completion candidate list);*
 - *(d) receiving a user input signal associated with the pointing device (Figs. 2, 4-5, 7-8 → once "f" has been entered, graphic shows an arrow indicating a pointing device used to select completion candidate);*

- *(e) if the user input signal corresponds to accepting a completion candidate from the search list to replace the partial text entry,*
- *modifying the partial text entry to become the accepted completion candidate (Fig. 3; Pg. 330 → since the word “first” is in the menu, the user can drag the pen and highlight the word “first”, and then take the pen off the tablet to complete the selection. Alternatively, if the user does not make a selection from the pull-down menu of Fig. 3, he can choose the desired word from the popup menu as shown in Fig. 4 (apparently the difference between Figs. 3 and 4 is that Fig. 4 displays one more candidate word suggesting again that the words are in a “scrollable” menu).*
- *(f) if the user input signal corresponds to selecting a completion candidate from the search list to initiate further searching, obtaining a second plurality of completion candidates based on the selected completion candidate and displaying the second plurality of completion candidates in the search list for further selection; wherein the user input signal corresponds to selecting a completion candidate from the search list to initiate further searching ... (Pg. 330 → after selecting “first” in Fig. 4, the display changes to Fig. 5. In the menu at the bottom, the words that often come after “first” are listed in order of frequency. Thus, the list is “refined” based on the entry list candidate “first”’s selection).*

Masui fails to expressly disclose:

- *when a completion candidate in the search list remains selected for a predetermined time limit*

However, Agulnick discloses “input events” in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an “input event”) is followed or “terminated” in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of menu items where a user would select a particular item with the pen (a pen-down, followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 6, Masui discloses:

- *the user input signal corresponds to the second type of user selection with the pointing device when a gesture is made with the pointing device onto a*

completion candidate in the search list to select the completion candidate (Pg.

330 → user can drag the pen (*gesture*) and highlight the word "First" as shown in Fig. 3);

Masui fails to expressly disclose:

- *the completion candidate remains selected for a predetermined time limit.*

However, Agulnick discloses "input events" in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an "input event") is followed or "terminated" in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of menu items where a user would select a particular item with the pen (a pen-down, followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 10, Masui fails to expressly disclose:

- *the user input signal corresponds to the third type of user selection with the pointing device when a completion candidate in the search list remains selected for a predetermined time limit.*

However, Agulnick discloses “input events” in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an “input event”) is followed or “terminated” in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of menu items where a user would select a particular item with the pen (a pen-down, followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 11, Masui discloses:

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- *the user input signal corresponds to the third type of user selection with the pointing device when*
 - *a gesture is made with the pointing device towards a completion candidate in the search list in order to select the completion candidate (Pg. 330; → the user can drag the pen and highlight the word “first”, suggesting a motion can be made in the direction of a completion candidate. Dragging suggests the pointing device is “active”);*

Masui fails to expressly disclose:

- *the completion candidate remains selected for a predetermined time limit.*

However, Agulnick discloses “input events” in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an “input event”) is followed or “terminated” in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of menu items where a user would select a particular item with the pen (a pen-down, followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user

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interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 13, Masui discloses:

- *the user input signal corresponds to the third type of user selection with the pointing device when*
 - *a gesture is made with the pointing device in a particular direction for at least a predetermined minimum distance in order to select the completion candidate* (Pg. 330; → the user can drag the pen and highlight the word “first”, suggesting a motion can be made in the direction of a completion candidate. Dragging suggests the pointing device is “active”);

Masui fails to expressly disclose:

- *the completion candidate remains selected for a predetermined time limit.*

However, Agulnick discloses “input events” in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an “input event”) is followed or “terminated” in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of menu items where a user would select a particular item with the pen (a pen-down,

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followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 97 (and similarly dependent Claim 157), Masui discloses:

- *(a) receiving a new user input signal associated with the pointing device (Pg. 329, Figs. 5-7; → depict further input signals for selecting words after “first”);*
- *(b) if the new user input signal corresponds to accepting a completion candidate from the second plurality of completion candidates displayed in the search list to replace the partial text entry,*
 - *modifying the partial text entry to become the accepted completion candidate from the second plurality of completion candidates displayed in the search list (Pg. 329, Figs. 5-6; → depict accepting completion candidate “we”);*

- *(c) if the new user input signal corresponds to selecting a completion candidate from the second plurality of completion candidates displayed in the search list to initiate further searching,*
 - *obtaining a further plurality of completion candidates based on the selected completion candidate and displaying the further plurality of completion candidates in the search list for further selection (Pgs. 329-330; Figs. 6-7; → depict selecting “Show” after selecting “we”).*

In regard to dependent Claim 98 (and similarly dependent Claims 159, and 168), Masui fails to expressly disclose:

- *displaying in the graphical user interface a graphical indication when at least one more additional completion candidate beginning with the partial text entry is available in addition to the completion candidates displayed in the search list.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *displaying a graphical indication when additional selections were available in a list* was well-known to one of ordinary skill in the art for the purpose of indicating additional choices without unnecessary cluttering of the display screen when what might be a lengthy list of selection candidates. This was true for devices where the screen was small (such as with a PDA) where screen space was at a premium.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *an displaying a graphical*

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indication when additional selections were available in a list for the purpose of avoiding damage to the touch-sensitive surface of the screen with the pointing device (stylus).

In regard to dependent Claim 99 (and similarly dependent Claims 158, 161, 165, 167, and 169), Masui fails to expressly disclose:

- *displaying the completion candidates in the search list with the part of each completion candidate matching the partial text entry displayed in a manner different from the remaining part of each of the completion candidates displayed in the search list.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *displaying the completion candidates in the search list with the part of each completion candidate matching the partial text entry displayed in a manner different from the remaining part of each of the completion candidates displayed in the search list* was well-known to one of ordinary skill in the art for the purpose of distinguishing in the completion candidates list that part of the word which matched the partial entry (usually distinguished using bold characters). This was especially useful for small screens where the text is typically quite small. Having completion candidates visualized in this manner provided feedback to the user as to when they were getting close to a matching candidate as they varied the number of partial characters entered.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *displaying the completion candidates in the search list with the part of each completion candidate matching the*

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partial text entry displayed in a manner different from the remaining part of each of the completion candidates displayed in the search list.

In regard to dependent Claim 100 (and similarly dependent Claims 162, and 170), Masui discloses:

- *displaying a completion candidate in substantially the same position in the search list each time the completion candidate is displayed in the search list (Pg. 331 → discloses using word and phrase dictionaries sorted by term (word) and phrase frequency, respectively; Pg. 329 → best candidate words are at top of menu; likelihood (weight) calculated from term frequency and context of words, and presumably phrases. One would typically expect that such an ordering would occur each time completion candidates were displayed given that the same partial entry was keyed).*

In regard to dependent Claim 101 (and similarly dependent Claim 163), Masui discloses:

- *displaying simultaneously a digital keyboard and the search list (e.g., Figs. 2-3 → show both search list and soft keyboard displayed simultaneously), wherein*
- *at least part of the partial text entry is received via the digital keyboard (Figs. 1-12 → disclose a soft keyboard and process of entering characters); and wherein*

- *the partial text entry is modified via any of the digital keyboard and the search list* (Pgs. 329-330, Figs. 2-12 → partial text entry is modified in Figs. 3-4 by selecting a completion candidate from the list).

In regard to dependent Claim 102, Masui discloses:

- *in response to modification of the partial text entry via the digital keyboard,*
 - *(a) obtaining a modified set of completion candidates that begin with the partial text entry as modified* (Pgs. 329-330; Figs. 3-4, 4-5, etc. transitions depict changes to the completion candidate set in response to user input);
 - *(b) displaying the modified set of completion candidates in the search list* (Pgs. 329-330; Figs. 3-4, 4-5, etc. new sets displayed);

In regard to dependent Claim 103 (and similarly dependent Claims 145, and 174), Masui discloses:

- *receiving at least the first character of the partial text entry via a digital keyboard displayed in the graphical user interface* (Fig. 2 → entering “f” key);
- *displaying simultaneously the search list and the digital keyboard in the graphical user interface when the partial text entry comprises at least the first character* (e.g., Figs. 2-3 → show both search list and soft keyboard displayed simultaneously when “f” key depressed).

In regard to dependent Claim 104, Masui discloses:

- *receiving at least part of the partial text entry via a digital keyboard (Fig. 2 → entering “f” key);*
- *displaying simultaneously the digital keyboard and the search list in the interface while the digital keyboard is in use (e.g., Figs. 2-3 → show both search list and soft keyboard displayed simultaneously during entry);*

Masui fails to expressly disclose:

- *(c) displaying the search list while not displaying the digital keyboard in the interface in response to obtaining the second plurality of completion candidates.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *alternatively switching between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered an more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between two windows that are related* for the purpose of *providing an uncluttered an more easily read screen*.

In regard to dependent Claim 130 (and similarly dependent Claim 132),

Masui fails to expressly disclose:

- *obtaining a refined list of completion candidates for display in the search list when a completion candidate in the search list remains selected for a predetermined time limit.*

However, Agulnick discloses “input events” in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an “input event”) is followed or “terminated” in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of menu items where a user would select a particular item with the pen (a pen-down, followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 136 (and similarly dependent Claim 138), Masui fails to expressly disclose:

- *computer-readable instructions to dynamically obtain the refined list of completion candidates when the one of the completion candidates from the search list remains selected for a predetermined time limit.*

However, Agulnick discloses “input events” in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an “input event”) is followed or “terminated” in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of menu items where a user would select a particular item with the pen (a pen-down, followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 137 (and similarly dependent Claim 139),
Masui discloses:

computer-readable instructions to further assist in directing the processing unit to process text entered via the user interface with the pointing device, by:

- *receiving at least part of the partial text entry via a digital keyboard displayed in a graphical user interface (Figs. 1-12, Pgs. 329-330 → user enters single character “f” corresponding to first letter in example sentence);*

Masui fails to expressly disclose:

- *(b) displaying the search list while not displaying the digital keyboard within the graphical user interface in response to obtaining the refined list of completion candidates.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *alternatively switching between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered an more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between two windows that are related* for the purpose of *providing an uncluttered an more easily read screen*.

In regard to dependent Claim 142 (and similarly dependent Claim 171),

Masui discloses:

- *displaying a digital keyboard in a graphical user interface* (Pgs. 329-330; Figs. 1-12 → digital keyboard in GUI shown);
- *receiving at least part of the partial text entry via the digital keyboard* (Fig. 2 → “f” key entered);
- *modifying the partial text entry via any of the digital keyboard and the search list* (Figs. 3-4 → partial entry modified by choice of word “First” from candidate entries list/menu).

In regard to dependent Claim 143 (and similarly dependent Claims 148, 172, and 178), Masui discloses:

- *displaying simultaneously both the digital keyboard and the search list* (e.g., Figs. 2-3 → show both search list and soft keyboard displayed simultaneously).

In regard to dependent Claim 144 (and similarly dependent Claim 149), Masui fails to expressly disclose:

- *obtaining a modified set of completion candidates that begin with the partial text entry as the partial text entry is modified.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *obtaining a modified set of completion candidates that begin with the partial text entry as the partial text entry is modified* was well-known to one of ordinary skill in the art for the purpose of refining/expanding (narrowing, in the case where the modification entails adding characters, broadening if characters are deleted)

the selection of completion candidates available to choose from. This feature was especially useful for devices with small screens as it typically prevented the screen from being cluttered with too many candidates, many of which were typically distant in spelling compared to the word(s) that were desired). In the case where a list was involved, it typically would have prevented the user from having to scroll or otherwise move or reposition the stylus excessively to see the longer list (typically when fewer characters were entered).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *obtaining a modified set of completion candidates that begin with the partial text entry as the partial text entry is modified*.

In regard to dependent Claim 146 (and similarly dependent Claim 176),

Masui discloses:

- *displaying a digital keyboard for generating at least part of the partial text entry* (Pgs. 329-330; Figs. 1-12 → depicts display of a digital keyboard).

In regard to dependent Claim 147 (and similarly dependent Claim 177),

Masui discloses:

- *modifying the partial text entry via any of the digital keyboard and the search list* (Figs. 3-4 → partial entry modified by choice of word "First" from candidate entries list/menu).

In regard to dependent Claim 150 (and similarly dependent Claim 180),

Masui discloses:

- *displaying simultaneously the digital keyboard and the search list in a user interface while the digital keyboard is in use (e.g., Figs. 2-3 → show both search list and soft keyboard displayed simultaneously during entry).*

In regard to dependent Claim 151, Masui fails to expressly disclose:

- *replacing the digital keyboard with the search list in response to a user input signal associated with activating the search list.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *alternatively switching or “flipping” between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered and more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between two windows that are related* for the purpose of *providing an uncluttered and more easily read screen*.

In regard to dependent Claim 152 (and similarly dependent Claim 182),

Masui fails to expressly disclose:

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- *replacing the search list with the digital keyboard in response to a user input signal associated with terminating use of the search list once activated.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *alternatively switching or “flipping” between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered and more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between two windows that are related* for the purpose of *providing an uncluttered and more easily read screen*.

In regard to dependent Claim 153 (and similarly dependent Claim 183),
Masui fails to expressly disclose:

- *displaying the digital keyboard in response to a user input signal associated with terminating use of the search list once activated.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *alternatively switching or “flipping” between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered and more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between two windows that are related* for the purpose of *providing an uncluttered an more easily read screen*.

In regard to dependent Claim 154 (and similarly dependent Claims 175, and 184), Masui discloses:

- *displaying simultaneously the digital keyboard and the search list in a graphical user interface while the digital keyboard is in use (e.g., Figs. 2-3 → show both search list and soft keyboard displayed simultaneously during entry);*

Masui fails to expressly disclose:

- *(b) displaying the search list while not displaying the digital keyboard in the graphical user interface in response to obtaining the second plurality of completion candidates.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *alternatively switching or “flipping” between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered an more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between*

two windows that are related for the purpose of providing an uncluttered and more easily read screen.

In regard to dependent Claim 156 (and similarly dependent Claim 166),

Masui fails to expressly disclose:

- *the means for obtaining a second plurality of completion candidates based on the selected completion candidate and displaying the second plurality of completion candidates in the search list for further selection (Pg. 330 → after selecting “first” in Fig. 4, the display changes to Fig. 5. In the menu at the bottom, the words that often come after “first” are listed in order of frequency. Thus, the list is “refined” based on the entry list candidate “first”’s selection).*
- *if the user input signal corresponds to selecting a completion candidate from the search list to initiate further searching, further comprises*
 - *means for initiating further searching when a completion candidate in the search list remains selected for a predetermined time limit.*

However, Agulnick discloses “input events” in existence in the prior art involving a pen or stylus and a touch-sensitive screen. A user selection of an item (an “input event”) is followed or “terminated” in several ways including a timeout, (labeled (b) in the text) where the specific selection is assumed to be the users intended selection after a timeout is reached. Agulnick further discloses that option (b) is usually used in cases where the user is signaling the end of an entry of a single character (Col. 1, line 66 to Col. 2, line 16). One interpretation of this scenario would have been in the selection of

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menu items where a user would select a particular item with the pen (a pen-down, followed by a pen-up) and after a delay that item would be interpreted by the CPU as the choice the user intended.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Agulnick as both references relate to pen-based computing operations/interactions with a pen or stylus and a graphical user interface. Adding the disclosure of Agulnick provides the benefit of selections incorporating a timeout allowing the CPU time to interpret the input action and update the display according to the input action.

In regard to dependent Claim 160 (and similarly dependent Claim 164),

Masui discloses:

- *(a) means for receiving a new user input signal associated with the pointing device (Pg. 329, Figs. 5-7; → depict further input signals for selecting words after “first”);*
- *(b) means for modifying the partial text entry to become the accepted completion candidate from the second plurality of completion candidates displayed in the search list if the new user input signal corresponds to accepting a completion candidate from the second plurality of completion candidates displayed in the search list to replace the partial text entry (Pg. 329, Figs. 5-6; → depict accepting completion candidate “we”);*

- *(c) means for obtaining a further plurality of completion candidates based on the selected completion candidate and displaying the further plurality of completion candidates in the search list for further selection if the new user input signal corresponds to selecting a completion candidate from the second plurality of completion candidates displayed in the search list to initiate further searching (Pgs. 329-330; Figs. 6-7; → depict selecting "Show" after selecting "we").*

In regard to dependent Claim 173 (and similarly dependent Claim 179),
Masui fails to expressly disclose:

- *means for obtaining a modified set of completion candidates that begin with the partial text entry as the partial text entry is modified.*

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *means for obtaining a modified set of completion candidates that begin with the partial text entry as the partial text entry is modified* was well-known to one of ordinary skill in the art for the purpose of refining/expanding (narrowing, in the case where the modification entails adding characters, broadening if characters are deleted) the selection of completion candidates available to choose from. This feature was especially useful for devices with small screens as it typically prevented the screen from being cluttered with too many candidates, many of which were typically distant in spelling compared to the word(s) that were desired). In the case where a list was involved, it typically would have prevented the user from having to scroll or otherwise

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move or reposition the stylus excessively to see the longer list (typically when fewer characters were entered).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *means for obtaining a modified set of completion candidates that begin with the partial text entry as the partial text entry is modified*.

In regard to dependent Claim 181, Masui fails to expressly disclose:

means for replacing the digital keyboard with the search list in response to a user input signal associated with activating the search list.

However, the Examiner takes **Official Notice** that, at the time the present invention was made, *alternatively switching or "flipping" between two windows that are related* was well-known to one of ordinary skill in the art for the purpose of providing an uncluttered and more easily read screen. This was especially true for devices with small screens where having multiple windows may obscure or distract from the task at hand.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Masui to include *alternatively switching between two windows that are related* for the purpose of *providing an uncluttered and more easily read screen*.

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9. Claims 25, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masui in view of PalmOS ("PalmPilot Handbook", copyright 1997 3Com, Pgs. 37-39, downloaded from <<http://www.palm.com/us/support/handbooks/palmpilothb.pdf>>).

In regard to dependent Claim 25, Masui discloses:

- *at least part of the partial text entry is received via a digital keyboard (Fig. 2 → entering "f" key);*

Masui fails to expressly disclose:

- *the method further comprising
 - *swapping between displaying one digital keyboard layout and at least one other digital keyboard layout in response to user input.**

However, PalmOS allows a user to change keyboard layouts whenever they needed to enter a number, or a special character (international character) (see Pg. 39, Figures).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and PalmOS because both references are related to keyboard input via a digital or virtual keyboard. Adding the disclosure of PalmOS provided the user with a way to select between character sets within a single user interface thereby saving screen space.

In regard to dependent Claim 34, Masui fails to expressly disclose:

- *displaying the digital keyboard in response to a user selection, and*
- *hiding the digital keyboard in response to another user selection.*

However, PalmOS discloses such a feature (Pgs. 37-38; → means for displaying and closing the virtual keyboard are described using a stylus to tap on the touch sensitive surface in a predefined area or using a stroke gesture).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and PalmOS as both references relate to virtual keyboard input. Adding the disclosure of PalmOS provides the benefit of opening and closing the virtual keyboard as needed to enter characters.

10. Claims 26, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masui in view of Bellman et al. (hereinafter Bellman, "A probabilistic character layout strategy for mobile text entry," 1998, Proc. of Graphics Interface '98, pp. 168-176).

In regard to dependent Claim 26, Masui fails expressly disclose:

- *(a) configuring a digital keyboard to include a plurality of characters assigned to predetermined locations within a layout for the digital keyboard according to a predetermined frequency distribution associated with the plurality of characters, the plurality of characters including less commonly used characters and more commonly used characters based on the predetermined frequency distribution; and*
- *(b) displaying the digital keyboard in a graphical user interface with the less commonly used characters displayed substantially further from a center of the digital keyboard than the more commonly used characters.*

However Bellman discusses optimal keyboard layouts that take into consideration single letter frequencies of use as well as higher levels of frequency (pairs of letters), and layouts (Fig. 8 depicts some of these notions) that accomplish greater input frequencies with various input devices (Pg. 169, under "Optimizing Layouts").

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Bellman as both references relate to virtual or soft keyboard input on small and/or mobile, portable devices. Adding the disclosure of Bellman provides the benefit of optimizing the virtual keyboard to increase the efficiency and ease of single character input on a mobile platform.

In regard to dependent Claim 37, Masui fails to expressly disclose:

- *relocating the cursor to a center of the digital keyboard when a character from the digital keyboard is selected.*
- However, Bellman discloses centering a cursor to varying positions for mobile text entry (Fig. 4A-C and in particular C);

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Masui and Bellman as both references relate to character input by virtual keyboard. Adding the disclosure of Bellman provides the benefit of centering a cursor in the center of a virtual keyboard making the distance

11. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masui in view of Mankoff et al. (hereinafter Mankoff, "Cirrin: a word-level unistroke

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keyboard for pen input," 11/01-04/1998, In *Proc. of the 11th Ann. ACM Symp. on User interface Software and Technology*, ACM Press, pp 213-214).

In regard to dependent Claim 27, Masui fails to disclose:

- *characters within the digital keyboard are displayed in rings with the characters in at least one ring organized alphabetically in a clockwise order.*

However, Mankoff discloses circularly arranged letter layouts in virtual keyboards which take into account different arrangements of individual letters such as alphabetically as well as based on usage frequency and minimal pen movements (Pg. 213, Fig. 1; Pg. 214, under heading "Character Layout").

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Mankoff as both references are related to using virtual keyboards for pen-based computing. Adding the disclosure of Mankoff provides the benefit of limiting a users movements thereby easing stress on their hand.

In regard to dependent Claim 28, Masui fails to disclose:

- *characters within the digital keyboard are displayed in rings with the characters in at least one ring organized alphabetically in a counter-clockwise order.*

However, Mankoff discloses circularly arranged letter layouts in virtual keyboards which take into account different arrangements of individual letters such as alphabetically as well as based on usage frequency and minimal pen movements (Pg. 213, Fig. 1; Pg. 214, under heading "Character Layout").

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It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Mankoff as both references are related to using virtual keyboards for pen-based computing. Adding the disclosure of Mankoff provides the benefit of limiting a users movements thereby easing stress on their hand.

In regard to dependent Claim 29, Masui fails to disclose:

- *characters within the digital keyboard are displayed in rings with about half of the characters in at least one ring organized alphabetically in a counter-clockwise order and the remaining characters in the at least one ring organized alphabetically in a clockwise order.*

However, Mankoff discloses circularly arranged letter layouts in virtual keyboards which take into account different arrangements of individual letters such as alphabetically as well as based on usage frequency and minimal pen movements (Pg. 213, Fig. 1; Pg. 214, under heading "Character Layout").

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the disclosures of Masui and Mankoff as both references are related to using virtual keyboards for pen-based computing. Adding the disclosure of Mankoff provides the benefit of limiting a users movements thereby easing stress on their hand.

Response to Arguments

12. Applicant's arguments with respect to claims 1-56, 83-85, 96-106, 130-133, 136-139, and 142-189 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H. Blackwell whose telephone number is 571-272-4089. The examiner can normally be reached on Mon-Fri.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R. Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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